

AMENDMENTS TO THE CLAIMS

Claims 1-13, 15-32, and 34-40 are pending in the instant application. Claims 1, 21, and 32 have been amended to clarify the claim language. Claims 14 and 33 have been previously cancelled. Claims 1, 21, and 32 are independent. Claims 2-13, 15-20, 22-31 and 32-40 depend directly or indirectly from independent claims 1, 21, and 32, respectively.

Listing of claims:

1. (Currently Amended) A method for reducing phase noise, comprising:

generating, in a transmitter, a local oscillator (LO) differential signal at a particular frequency, the LO differential signal being associated with a LO harmonic frequency signal disposed at a LO harmonic frequency;

selecting, utilizing a harmonic trap in a differential buffer, said harmonic trap disposed at an output of said LO differential signal of-in said transmitter, frequency content disposed in a region around the LO harmonic frequency; and

attenuating, in said transmitter, said selected frequency content disposed in said region around the LO harmonic frequency.

2. (Previously Presented) The method of claim 1, comprising:

associating the LO differential signal with a second LO harmonic frequency signal disposed at a second LO harmonic frequency; and

selectively attenuating frequency content disposed in a second region around the second LO harmonic frequency.

3. (Previously Presented) The method of claim 1, comprising:

applying at least one non-linear operation to the LO differential signal; and
transmitting the applied signal.

4. (Previously Presented) The method of claim 3, wherein applying at least one non-linear operation to the LO differential signal comprises dividing the LO differential signal.

5. (Previously Presented) The method of claim 3, wherein applying at least one non-linear operation to the LO differential signal comprises mixing the LO differential signal with a reference signal.

6. (Previously Presented) The method of claim 3, wherein applying at least one non-linear operation to the LO differential signal comprises amplifying the LO differential signal.

7. (Previously Presented) The method of claim 1, wherein the LO differential signal is generated by at least one of a fixed frequency oscillator, a voltage controlled oscillator, and a current controlled oscillator.

8. (Previously Presented) The method of claim 1, wherein the frequency content is selectively attenuated by at least one attenuating circuit.

9. (Previously Presented) The method of claim 8, wherein the at least one attenuating circuit comprises at least one of an integrated component and a discrete component.

10. (Previously Presented) The method of claim 8, wherein the at least one attenuating circuit comprises at least one harmonic trap.

11. (Previously Presented) The method of claim 1, comprising:
buffering the LO differential signal prior to selectively attenuating the frequency content.

12. (Previously Presented) The method of claim 11, wherein the buffering is performed by a buffer.

13. (Previously Presented) The method of claim 12, wherein the selective attenuating of the frequency content is performed within the buffer.

14. (Cancelled)

15. (Previously Presented) The method of claim 1, wherein the LO differential signal comprises a quadrature signal.

16. (Previously Presented) The method of claim 1, wherein the selective attenuating comprises canceling frequency content disposed in the region around the LO harmonic frequency.

17. (Previously Presented) The method of claim 16, wherein the canceling frequency content disposed in the region around the LO harmonic frequency comprises canceling frequency content disposed only at the LO harmonic frequency.

18. (Previously Presented) The method of claim 1, wherein the selective attenuating comprises notching frequency content disposed in the region around the LO harmonic frequency.

19. (Previously Presented) The method of claim 18, wherein the notching frequency content comprises notching frequency content disposed only at the LO harmonic frequency.

20. (Previously Presented) The method of claim 1, wherein the selective attenuating comprises bandstopping frequency content disposed in the region around the LO harmonic frequency.

21. (Currently Amended) A circuit for reducing phase noise, comprising:
a signal generator in a transmitter, said signal generator generates a local oscillator (LO) differential signal at a particular frequency, the LO differential signal being associated with a LO harmonic frequency signal disposed at a LO harmonic frequency; and

an attenuating circuit in said transmitter, said attenuating circuit selects, utilizing a harmonic trap in a differential buffer, said harmonic trap disposed at an output of said LO differential signal of said transmitter, frequency content disposed in a region around the LO harmonic frequency and attenuates said selected frequency content disposed in said region around the LO harmonic frequency.

22. (Previously Presented) The circuit of claim 21, comprising:

a buffer for buffering the LO differential signal, the buffer being coupled to the signal generator.

23. (Previously Presented) The circuit of claim 22, wherein the attenuating circuit is part of the buffer.

24. (Previously Presented) The circuit of claim 21, comprising:

a non-linear operation circuit that applies at least one non-linear operation to the LO differential signal to obtain an outgoing signal; and

a transmitting circuit for transmitting the outgoing signal.

25. (Previously Presented) The circuit of claim 24, wherein the transmitting circuit comprises an antenna.

26. (Previously Presented) The circuit of claim 24, wherein the non-linear operation circuit comprises a divider that divides the LO differential signal.

27. (Previously Presented) The circuit of claim 24, wherein the non-linear operation circuit comprises a mixer that mixes the LO differential signal with a reference signal.

28. (Previously Presented) The circuit of claim 24, wherein the non-linear operation circuit comprises an amplifier that amplifies the LO differential signal.

29. (Previously Presented) The circuit of claim 21, wherein the signal generator comprises at least one of a fixed frequency oscillator, a voltage controlled oscillator, and a current controlled oscillator.

30. (Previously Presented) The circuit of claim 21, wherein the attenuating circuit comprises at least one of an integrated component and a discrete component.

31. (Previously Presented) The circuit of claim 30, wherein the attenuating circuit comprises at least one harmonic trap.

32. (Currently Amended) A system for reducing phase noise, comprising:
a signal generator in a transmitter, said signal generator generates a local oscillator (LO) differential signal at a particular frequency, the LO differential signal being associated with a LO harmonic frequency signal disposed at a LO harmonic frequency; and

a buffer that buffers the LO differential signal, the buffer adapted to select, utilizing a harmonic trap in said buffer, said harmonic trap disposed at an output of

said LO differential signal of said transmitter, frequency content disposed in a region around the LO harmonic frequency and attenuate said selected frequency content disposed in said region around the LO harmonic frequency.

33. (Cancelled)

34. (Previously Presented) The system of claim 32, wherein the LO differential signal comprises a quadrature signal.

35. (Previously Presented) The system of claim 32, wherein the signal generator comprises a differential signal generator.

36. (Previously Presented) The system of claim 35, wherein the buffer comprises a differential pair of transistors, the differential pair of transistors being adapted to receive the LO differential signal.

37. (Previously Presented) The system of claim 32, wherein the buffer comprises a harmonic trap, the harmonic trap being adapted to attenuate the frequency content disposed in the region around the LO harmonic frequency.

38. (Previously Presented) The system of claim 37, wherein the harmonic trap is disposed across a differential output of the buffer.

39. (Previously Presented) The system of claim 32, wherein the buffer is adapted to band stop the frequency content disposed in the region around the LO harmonic frequency.

40. (Previously Presented) The system of claim 32, wherein the buffer is adapted to notch the frequency content disposed only at approximately the LO harmonic frequency.